City of Lodi

Annual Water Quality Report for 2005

(published April 2006)

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien. Para la ayuda en español, llama por favor (209) 333-6740.

This is the City of Lodi's 17th Annual Water Quality Report designed to keep you, the Citizens of Lodi, informed about your drinking water. The Water Quality Report summarizes testing performed on Lodi's water supply by State certified laboratories and provides additional information about the water system. This report follows the "Consumer Confidence Report" (CCR) format required by the U.S. Environmental Protection Agency and the State of California. This Report can also be found at on the City of Lodi's web site at www.lodi.gov/

WHO ARE WE?

In 1910 your City of Lodi Water Utility officially began operation along with the Electric Utility, and for 95 years, the water system has been owned by the Citizens of Lodi. In 1910 there were only two wells and a few miles of water mains. In 2005 there were twenty-six wells, over 210 miles of mains, a water tower and a 1-million-gallon storage tank. Lodi delivers water to approximately 23,000 residential, commercial and industrial customers.

Water rates, system expansion projects, and significant purchases are authorized by the Lodi City Council, which serves as the water utility's official regulatory body. **Lodi City Council meetings are open to the public and are scheduled for the first and third Wednesdays of each month at 305 West Pine Street in Lodi at 7:00 p.m.** You may also communicate with the Council and City staff through the City's web site.

YOUR DRINKING WATER SYSTEM

Twenty-six computer controlled wells, located throughout the City, provide high quality groundwater, and were our sole source of supply in 2005. The wells operate automatically on water pressure demand so that when water use increases, more wells are started. To keep up with peak water supply demands, one new well was added in 2005 and another well is planned for 2007. The cost of these new wells is being paid by development fees. However, the groundwater basin is being depleted. Lodi has contracted to use some surface water from the Mokelumne River. The City is currently studying how to utilize this surface water. More information on water supply is on the City's web site.

Seven wells are fitted with emergency diesel-powered generators. (While these generators will help maintain water pressure during power outages, please refrain from using water during power outages to save capacity for essential uses - hospitals, fire fighting, etc.)

The water delivered to your tap meets or is better than all Federal and State water quality standards.

If you have any questions about this report or Lodi's water quality, please contact:

Assistant Water/Wastewater Superintendent
Frank Beeler • 1331 S. Ham Lane, Lodi, CA 95242
Telephone: (209) 333-6740 • E-mail: fbeeler@lodi.gov

WATER QUALITY

Lodi is fortunate in having a high quality groundwater supply. However, that supply is at risk and must be carefully managed. The following section discusses some of Lodi's water quality issues.

- **DBCP** – Dibromochloropropane (DBCP) was used by area farmers to kill nematodes in vineyards. DBCP was banned in California in 1977, but is still present in trace levels in some groundwater. The City of Lodi used 26 wells to provide drinking water in 2005. The wells are rotated, so over the course of time water being delivered is a blend from these wells. Thirteen of Lodi's wells had no detectable DBCP. Six wells have filters to remove DBCP. The remaining seven wells meet State and Federal standards, but have trace amounts of DBCP. **The result is that the people of Lodi are being served water below the DBCP level deemed safe by the U.S. EPA and the State of California.**

  In 1996 the City settled a lawsuit against DBCP manufacturers, who have already paid the City for a large portion of Lodi's costs related to DBCP treatment. These manufacturers will continue to pay a large portion of the City's DBCP related costs for the settlement's 40-year term.

- **PCE/TCE -** The City, working with regulatory agencies and potentially responsible parties in a cooperative manner, is pursuing a resolution to a groundwater contamination problem in the north and central Lodi area. While no operating wells are out of compliance with any drinking water standards, the contamination is a serious threat. PCE (Tetrachloroethylene) and TCE (Trichloroethylene) have been detected in samples taken in soils and groundwater. Cleanup work in portions of the area has commenced and the City expects additional areas to commence cleanup work in the near future. The City's share of these costs has largely been determined and a series of rate adjustments has been adopted. More information on this can be found on the City's website.

- **MTBE -** MTBE (Methyl-Tert-Butyl-Ether) is a controversial additive to gasoline that has been in the news the past few years. One of the main concerns with MTBE is the threat of leaking from service stations into the groundwater. Monitoring of City wells has NOT found any detected traces of MTBE to date. The City has a program of monitoring all City wells for MTBE. Wells that are at greater risk (i.e., closer to gasoline stations) are monitored more frequently.

- **Bacteriological Quality, Chlorination** - Lodi takes over 20 samples per week from throughout Lodi's water distribution system for bacterial water quality. Regulations allow for 5% of all total coliform samples in a month to be positive. In 2005 all bacteriological standards were met.

  The water may be periodically chlorinated as a proactive step to help keep the water system in compliance with strict bacteriological standards; however, Lodi's water does not normally contain chlorine. The City will make an effort to inform you in local newspapers before your water is chlorinated. When necessary however, the water may be chlorinated before you can be informed.

- **Drinking Water Source Assessment** - An assessment of the drinking water sources for the City of Lodi's water system was completed in February 2003. The sources are considered most vulnerable to the following activities: gas stations (current and historic), chemical/petroleum processing/storage, metal plating/finishing/fabricating, plastic/synthetics producers, dry cleaners, known contaminant plumes, sewer collection systems, fleet/truck/bus terminals, machine shops, utility stations-maintenance areas, agricultural drainage, and photo processing/printing.

  A copy of the completed assessment is available at the Public Works Department, City of Lodi, 1331 South Ham Lane, Lodi, CA 95242. You may request that a copy be sent to you by contacting Frank Beeler at (209) 333-6740. A copy of the complete assessment is also available at the Department of Health Services, Drinking Water Field Operations Branch, Stockton District Office, 31 E Channel Street, Room 270, Stockton, California 95202. You may also request that a copy be sent to you by contacting Joseph O. Spano, District Engineer, at (209) 948-7696.

If You Have a Water Problem

- Many times, water quality problems in the home can be traced to the hot water heater, the plastic water lines under the sink to faucets, or because sewer gases from the drain are being smelled. Other times there can be occasional water quality problems associated with the aesthetic quality of your water such as sand, which may be originating from water supply mains
- Set the hot water heater at the proper temperature, too hot can create heavier scaling problems, and not warm enough can allow bacteria to grow.
- "Hard" water can be considered a quality issue depending on the actual hardness level and the use. Some industrial processes require very soft water. Lodi's groundwater is at the low end of the "moderately hard" water range and you may see white scale or spots on plumbing fixtures.
- If you have a filter or in-home treatment system; be sure it is working properly.
  (Note, if you use a water softener, we suggest you utilize one which is regenerated by the softener company. Self-regenerating units add salt to the wastewater, which can add significantly to the City's wastewater treatment costs.)
- Low pressure can lead to water quality problems and can be caused by plugged screens in faucets or washing machine hoses, broken valves or for other reasons. If you have intermittent problems, first check pressure in other parts of your house or at an outside faucet. If that pressure is okay, check the fixture/screens at the problem area. If the problem is throughout the whole house, call the City for assistance.

If you ever experience trouble with your water, and you do not think it is a problem with your on-site plumbing, please call the Water/Wastewater Division at 368-5735 or 333-6740.

WATER CONSERVATION

In 2005, 5.366 billion gallons of groundwater was pumped to meet Lodi's water demands. This is 24% less water use per person than in 1986. As population in Lodi and California increases, water conservation becomes an important part of meeting demands for fresh water.

The commitment of the citizens of Lodi to conserving water also helps conserve the electrical energy needed to pump the water to homes and businesses. To further conserve water, electrical energy, and wastewater treatment plant capacity, the City has instituted a rebate program for water saving devices such as low-flow toilets. See details below.

Your diligent water conservation practices, as in the past, are needed in 2006. A report calculated dollar savings from water conservation to be far above the cost of the Water Conservation Program! Your water conservation efforts have also averted millions of dollars in capital costs, helping rates stay as low as possible. The millions of dollars in capital cost savings can easily be lost if water conservation is not continued.

See the summary of the Lodi Water Conservation Ordinance at www.lodi.gov – click on Water Conservation Information. For information or to report a water waste, call the Water Conservation office at 333-6829.

$ Water Conservation Rebate Program $

The City of Lodi is offering rebates on the purchase and installation of water conserving devices at residential and commercial water customer premises within the City of Lodi.

Rebates of up to $44 are given for Ultra Low-Flow Toilets rated at 1.6 gallons per flush or less and must be replacing units using a higher volume of water per flush. Rebates of up to $100 are available for pressure assist PF/2 Ultra Low-Flow 1.6 gallon toilets. Additional rebates of 50% are available on

Low-Flow Shower Heads, Insulated Hot Water Blankets, and Hose Bib Manual Timers for outside water hoses.

The program is funded by the Water, Wastewater and Electric Utilities. **The rebates, given in the store at the time of purchase, are only available at the following Lodi stores:**

Ace Hardware • 827 West Kettleman Lane
Orchard Super Hardware • 360 South Cherokee Lane
Ferguson Enterprises, Inc • 1435 Academy Street

Call (209) 333-6740 for more details.

THE FOLLOWING MESSAGES ARE REQUIRED BY THE U.S. EPA AND THE STATE OF CALIFORNIA. NOT ALL PORTIONS OF THESE MESSAGES NECESSARILY APPLY TO LODI'S GROUNDWATER.

• Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (1-800-426-4791).

• Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lesson the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

• The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

• Contaminants that may be present in source water include:

  • Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plant, septic systems, agricultural livestock operations, and wildlife.

  • Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

  • Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

  • Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

  • Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, US Environmental Protection Agency (USEPA) and the State California Department of Health Services (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

• Radon is a naturally occurring radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air-containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program or call EPA's Radon Hotline (1-800-SOS-RADON).

ARSENIC: *After a long debate, the drinking water standard for Arsenic will be lowered from 50 ppb (parts per billion) to 10 ppb. The following message is required for systems that have some sources*

containing Arsenic below the new standard of 10 ppb, but over half (5 ppb). The average in Lodi's wells is 4.4 ppb and the highest well is 9.7 ppb.
While your drinking water meets the current standard for arsenic, it does contain low levels of arsenic. The standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The California Department of Health Services continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

NITRATE: *The following message is required for systems that have some sources containing Nitrate below the standard of 45 ppm (as NO_3), but over half (23 ppm) of the standard. The average of Lodi's wells is 9.2 ppm and the highest well is 35 ppm.*
Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

To better understand the report, please note the description of terms and abbreviations

Terms and Abbreviations Used:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. **Notification Level (NL):** Health-based advisory levels established by DHS for chemicals in drinking water that lack maximum contaminant levels (MCLs).

Primary Drinking Water Standard or PDWS: MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Maximum residual disinfectant level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum residual disinfectant level goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

mg/L or ppm: Milligrams per liter, or parts per million (one ppm equals a concentration of about one cup in a 60,000 gallon swimming pool).

ug/L or ppb: Micrograms per liter, or parts per billion (one ppb equals about 4.5 drops in a 60,000 gallon swimming pool).

ppt: Parts per trillion (one ppt equals less than 1/200 of a drop in a 60,000 gallon swimming pool).

pCi/L: Picocuries per liter (a measurement of radiation).

NA: Not Applicable.

ND: Not Detected at measurable amounts for reporting purposes.

Grains/gal: Grains per gallon. A hardness measurement often used for softeners and dishwashers. (17.1 mg/L = 1 grain/gal as calcium carbonate).

umhos/cm: Micromhos per centimeter (a measurement of conductance).

< Means less than the amount shown. **>** Means more than the amount shown.

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Regulated Inorganic Chemicals *2003-2005 Data	MCL	Average of Lodi Wells	Range of Individual Detections	PHG or (MCLG)	Major sources in Drinking water
Aluminum, mg/L	1	0.023	0.22-ND	0.6	Erosion of natural deposits, residue from some surface water treatment processes
Arsenic, ug/L	50	4.4	9.7-ND	0.004	Erosion of natural deposits (see message below)
Barium, mg/L	1	<0.1	0.25-ND	2	Erosion of natural deposits
Fluoride, mg/L	2.0	0.04	0.14-ND	1	Erosion of natural deposits
Nitrate as NO_3, mg/L	45	9.2	35-ND	45	Leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits (see below)

Bacterial Water Quality Coliform Bacteria 2005 Data	MCL	Total Positive	Monthly High-Low Range	PHG or (MCLG)	Major sources in Drinking water
Total Coliform, Positive	5%/month	0.8 %	4.3 % - 0%	(0)	Naturally present in the environment
Fecal Coliform & E. coli	>1 /month	0	0 - 0	(0)	Human and animal fecal waste

Radioactivity, pico Curies per Liter 2005 Data	MCL	Average of Lodi Wells	Range of Individual Detections	PHG or (MCLG)	Major sources in Drinking water
Gross Alpha, pCi/L	15	2.86	15.9-0.16	(0)	Erosion of natural deposits
Radium 228	2	0.12	0.456-0	(0)	Erosion of natural deposits
Uranium, pCi/L	20	2.66	15.8-0	0.43	Erosion of natural deposits

Organic Chemicals with at least one confirmed detection in an operational City Well						
Regulated Organic Chemicals 2005 Data	MCL	Average of Lodi Wells	Range of Individual Detections	PHG or (MCLG)	Major sources in Drinking water	Comments:
Tetrachloroethylene (PCE), ppb	5	0.09	1.1** - ND	0.06	Discharge from factories, dry cleaners, and auto shops (metal degreaser)	Found in Wells # 6R, 8 & 12 at levels below the MCL.

1,1-Dichloroethylene (1,1-DCE), ppb	6	0.01	0.68**-ND	10	Discharge from industrial chemical factories. Local contamination from businesses using the chemical.	Only in Well # 2 at levels below the MCL
Trichloroethylene (TCE), ppb	5	0.11	2.0**-ND	0.8	Discharge from metal degreasing sites and other factories. Local ground contamination from businesses using the chemical. Breakdown product of Tetrachloroethylene (PCE).	Only from Wells # 2 & 18 at levels below the MCL.
Dibromochloropropane (DBCP), ppt	200	48	310**-ND	1.7	Banned nematocide that may still be present in soils due to runoff/leaching from former use on vineyards.	See the update in the Water Quality section of this report

Secondary Standards Aesthetic Purposes (see note) *2003-2005 Data	Secondary MCL	Average of Lodi Wells	Range of Individual Detections
Aluminum, ug/L	**200**	**23**	**220-ND**
Chloride, mg/L	**500**	**15**	**50-3.1**
Color-Units	**15**	**ND**	**ND**
Specific Conductance, umhos/cm	**1600**	**343**	**810-100**

Secondary Standards Aesthetic Purposes (see note) *2003-2005 Data	Secondary MCL	Average of All Wells	Range of Individual Detections
Foaming Agents (MBAS), ug/L	**500**	**<10**	**55-ND**
Sulfate, mg/L	**500**	**14**	**36-ND**
Total Dissolved Solids, mg/L	**1000**	**247**	**490-100**
Turbidity, NTU Units	**5**	**0.12**	**0.62-0.02**

Note: Aesthetic problems are only associated with taste, smell, and other problems which are not a health risk.

Lead & Copper Rule Customer Tap Monitoring 2003 Data	**AL (Action Level)**	**Average 90th Percentile**	**Range of Individual Detections**	**# Samples Exceeding AL (of 46 samples from 46 sites)**	**PHG or (MCLG)**	**Major sources in Drinking Water**
Lead, 90th %, ug/L	**15**	**<5.0**	**5.2-ND**	**0**	**2**	**Internal erosion of household plumbing**
Copper, 90th %, mg/L	**1.3**	**0.41**	**0.55-ND**	**0**	**0.17**	**systems; erosion of natural deposits**

Unregulated Contaminants Detected 2005 Data	**Notification Level (NL)**	**Average of Lodi Wells**	**Range of Individual Detections**
Chloromethane, ug/L	**NA**	**0.287**	**2.5-ND**

Unregulated Contaminants Detected 2005 Data	**Notification Level (AL)**	**Average of Lodi Wells**	**Range of Individual Detections**
Trichloropropane, ug/L	**0.005**	**0.005**	**0.35-ND**

Other non-regulated water constituents found in your water (for your information only)

Non-regulated water constituents, *2003-2005 Data	Average of Lodi Wells	Range of Detections
Total Hardness, mg/L as CaCO3	130	340-30
Total Hardness, grains/gal.	7.6	19.9-1.8
Calcium, mg/L	29	78-5.9
Sodium, mg/L	22	56-1.3

Non-regulated water constituents, *2003-2005 Data	Average of Lodi Wells	Range of Detections
Potassium, mg/L	6.8	13-2.1
Alkalinity (bicarbonate), mg/L	165	340-55
pH, in pH units	7.3	7.6-6.9
Magnesium, mg/L	14	35-3.7

*** Regulations call for monitoring of some constituents less than once per year because the concentrations of these constituents do not change frequently. Therefore, some of our data, though representative, are more than one year old.**

**** Averages are used for compliance determination due to the variable nature of individual analyses, and due to the fact that any associated theoretical risks are not acute, but theoretically only after years of exposure to levels above MCLs.**